NORRIS RESERVOIR

LAND MANAGEMENT PLAN

RIVER SYSTEM OPERATIONS AND ENVIRONMENT

RESOURCE STEWARDSHIP

Clinch-Powell Watershed

Prepared by

Tennessee Valley Authority

September 2001

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Background

TVA develops reservoir land management plans to assist in managing the public lands around its reservoirs. In conjunction with its construction of Norris Dam in the early 1930s, TVA acquired 122,000 acres of land. Sales and transfers of land for economic, industrial, residential, or public recreation development have resulted in a current net balance of 27,927 acres of public land. In order to determine future management direction for this land, TVA has prepared a land allocation plan for Norris Reservoir. This plan updates a previous 1968 plan. Of the 27,927 acres, 18,937 acres (68 percent) are proposed to be allocated for natural resource conservation, 4,839 acres (17 percent) are proposed for sensitive resource management, 1,744 acres (6 percent) are proposed for recreation, 1,473 acres (5 percent) are proposed for residential access, and 935 acres (3 percent) are proposed for TVA project operations. In addition, TVA would expand its Monks Corner Small Wild Area by 25 acres and establish 11 new Habitat Protection Areas to protect state-listed plants and other sensitive resources. Finally, TVA would make the following recreational and land management improvements to Parcel 6, the Norris Dam Reservation:

- Construct a restroom between Clear Creek and the Clinch River weir dam
- Construct new trail extensions
- Replace the handrail and sidewalk for the powerhouse parking lot
- Mow, spray, or cut exotic plant species and restore native species
- Convert areas in fescue grass to native warm season grasses
- Remove woody vegetation on the east side of US 441 between the Aquatic Biology Laboratory and Clear Creek.
- Establish shoreline management zones where mowing is prohibited around Clinch River and Clear Creek.

TVA notified the public and environmental agencies of its land planning effort for Norris Reservoir through articles in its *TVA River Neighbors* publication in April 1999 by questionnaires distributed to local government agencies and organizations, and through two public meetings in October and November 1999. Following consideration of scoping comments, staff research and resource inventories, TVA developed draft allocations and prepared a draft environmental assessment (EA) evaluating the impacts that could result from such allocations. The draft EA and plan, released in June 2001, was provided to the public, agencies, and interested organizations. A general public meeting was held on the Norris Dam Reservation on July 9 and four other opportunities for public participation were provided at meetings of Friends of Norris Lake, Campbell Outdoor Recreation Association, and Campbell County Leadership Forum during the comment period. Comment letters were received from 22 individuals, agencies, or organizations. Responses to these comments are provided in Appendix A-4 of the EA. Public comments were generally supportive of implementation of Alternative B. Commenters raised specific concerns about forest management, noise, light pollution, rights of subdivision lot owners, and recreational boating impacts. In general, TVA believes that

its conservative allocations would have minimal potential to affect these issues. TVA's emphasis in forest management is on preserving forest health and productivity.

Agencies commenting on the draft land plan included the East Tennessee Development District (ETDD), Tennessee Department of Environment and Conservation (TDEC), Tennessee Department of Transportation (TDOT), Tennessee Historical Commission (THC), U.S. Army Corps of Engineers (USACE), and U.S. Fish and Wildlife Service (FWS). ETDD indicated that there were no conflicts with plans or programs of agencies within the region. TDEC, USACE, and FWS indicated support for Alternative B because of benefits to recreation and fish and wildlife resources. TDOT provided suggestions to better address transportation concerns, which were subsequently made to the draft. THC indicated that the project area contains resources potentially eligible for listing in the National Register of Historic Places. In response, TVA contacted THC and received concurrence in a phased identification and evaluation approach for consideration of impacts to cultural resources, consistent with National Historic Preservation Act regulations.

After considering all comments, TVA developed a Final Environmental Assessment and Land Management Plan.

Alternatives

The EA evaluates the potential environmental impacts of two alternatives, no action (Alternative A), and the proposed Reservoir Land Management Plan (Alternative B). The EA and accompanying Land Use Plan and Parcel Descriptions are attached and incorporated by reference. Under Alternative A, TVA would continue management of its properties according to the 1968 reservoir land use forecast system. When a proposal is received from an external applicant or internal TVA organization, TVA would evaluate the proposed land use for consistency with the forecast. Under the forecast system, 18,050 acres or 65 percent of reservoir lands are designated for public recreation, which is defined as land set aside for use by the general public for recreational activities. Other major designations are Reservoir Operations (9 percent) and Steam Plant site (3 percent). Smaller areas of land are designated for Dam Reservation, TVA Small Wildlife Area, Forestry Research, Wildlife Management, and Power Transmission. Approximately 3,635 acres considered for allocation under Alternative B were not included in the previous forecast system. Requests for use of these "no forecast" lands would be handled on a case-by-case basis under Alternative A. "No forecast" lands and reservoir operations lands with deeded residential access rights would be managed in accordance with the TVA Shoreline Management Policy adopted in 1999.

Under Alternative B, 27,927 acres would be allocated into 5 planning zones as described above in the background section. The planning zones in Alternative B take into account the results of resource inventories for sensitive resources such as rare species, archaeological resources, significant visual resources, and wetlands. Recognizing the sensitive resources identified in these inventories, 11 additional Habitat Protection Areas are proposed to be designated on all or portions of parcels 5, 7, 10, 13, 35, 36, 52, 74, 145, 181, and 182. The existing Monks Corner Small Wild Area (parcel 123) would be expanded. Alternative B grandfathers previous land use commitments but allocates a major portion of otherwise uncommitted TVA land to zones emphasizing resource stewardship. TVA would prepare natural resource management

unit plans and environmental assessments for lands allocated to Zones 3 and 4. Residential Access lands would be specifically designated as zone 7.

Impacts Assessment
Under either alternative, the EA finds that impacts to environmental resources would be insignificant. Under Alternative A, the individual project review process would avoid or minimize impacts to sensitive environmental resources. However, TVA could consider enhanced recreational development on more than 65 percent of Norris Reservoir lands, and some tracts are available for expanded power development needs. By contrast, Alternative B provides enhanced protection to sensitive resources (such as cultural sites, wetlands, and rare species) by allocating certain lands (17 percent) to the Sensitive Resource Management zone, thereby reducing the potential that these sensitive lands would be put to incompatible uses. Sensitive resources would be further protected through administrative designation or expansion of habitat protection areas and small wild areas. In total, under Alternative B, TVA would make a long-term commitment to natural resource management and protection on 85 percent of TVA lands. The EA identifies Alternative B as the preferred alternative since this alternative emphasizes conservation-oriented uses for more than 80 percent of public lands while allowing compatible public uses on the remaining lands.

Conclusion and Findings
The State Historic Preservation Officer has reviewed the draft plan and concurred, by communication of July 25, 2001, with a phased identification and evaluation approach to compliance under Section 106 of the National Historic Preservation Act. Following identification and evaluation efforts, TVA will prepare the appropriate findings related to historic properties for each ground-disturbing activity.

TVA also consulted with FWS on impacts to federally-listed endangered and threatened species. The July 26, 2001, letter from the FWS indicated that Alternative B would result in benefits to fish and wildlife of the area. Thus, TVA concludes that the requirements of Section 7 of the Endangered Species Act have been met.

After review of the EA, we agree that the proposed allocation of 27,927 acres of land on Norris Reservoir into five planning zones would not have a significant impact on the quality of the environment. Accordingly, an environmental impact statement is not required. This FONSI is contingent upon the commitments in Section 3.18 of the attached EA.

Jon M. Loney
Manager
NEPA Administration
Environmental Policy & Planning
Tennessee Valley Authority

Aug 7, 2001
Date

COMMITMENST

NORRIS RESERVOIR LAND MANAGEMENT PLAN

1. All land-disturbing activities shall be conducted in accordance with Best Management Practices (BMPs) as defined by Section 208 of the Clean Water Act and implementing regulations to control erosion and sedimentation. Forest management activities will be conducted in accordance with practices prescribed for forestry in *Best Management Practices for Silvicultural Activities on TVA Land*.

2. Visual and water quality enhancement buffers, between 50 and 100 feet Wide, will be provided to screen wildlife habitat enhancement areas from public thoroughfares and shorelines and to minimize the potential for sediments or other nonpoint source pollutants to enter Norris Reservoir.

3. Any facilities or structures subject to flood damage will be floodproofed or located above the 500-year flood elevation.

4. TVA will utilize a phased identification and evaluation approach to identify cultural resources.

5. Controlled burns will be conducted in accordance with Tennessee open burning regulations.

6. BMPs for agriculture, including maintenance of vegetative buffers, will be included in agricultural licenses as described in *Agricultural Land Licensing for 1999-2003 Crop Years - Northeast Region, Land Management*, TVA, 1999.

1. INTRODUCTION

The Norris Reservoir Land Management Plan (Norris Plan) is the result of a study of the Tennessee Valley Authority (TVA) public-owned land surrounding Norris Reservoir. This *Introduction* provides background information about the history of the Norris Reservoir area, explains the purpose of the Norris Plan, and describes the process used to develop the Norris Plan. The *Norris Reservoir Regional Overview* describes the natural and social development of the reservoir and surrounding area. *Planning Objectives* list the objectives around which the Norris Plan was developed. *Allocation Process* includes a summary of the parcel allocation process and zone definitions. Appendix A-3 of the Environmental Assessment (EA) contains a Parcel Information Matrix, which identifies each parcel number, the proposed allocation zone, number of acres, reason for allocation, prior forecast designation, and map panel locator. The Allocation map (Exhibit 1) is stored in a pocket at the back of this document.

1.1 Background

The massive dam and reservoir construction program that was undertaken by TVA, following its creation in 1933, required the purchase of over one million acres of land for the creation of 34 reservoirs in five of the seven states in the Tennessee Valley region. Approximately 600,000 acres of that land lie above the summer pool elevation of the TVA reservoir system.

Arthur Morgan, Chairman of the TVA Board of Directors (Board) in the 1930s, viewed TVA public land ownership as a tool to promote social objectives. Throughout its history, TVA has managed the reservoir land under its stewardship to meet a wide range of regional and local resource development needs and to improve the quality of life, both within specific reservoir areas and throughout the Tennessee Valley. Reservoir properties have been used for public parks; commercial recreation; industrial, residential, and tourism development; forest and wildlife management designation; and small wild areas to meet a variety of other needs associated with local communities and government agencies.

Today, TVA's land base Valley-wide has been reduced to less than 265,000 acres. An increasing demand for and use of reservoir land sometimes results in conflicting land use patterns and friction between public and private use. These competing interests and development pressures, coupled with today's environmental awareness, underscore the necessity for a planned approach to the management of TVA's reservoir land and related resources.

In order to systematically manage its land, TVA initiated a comprehensive reservoir land management planning process in 1979. The Tennessee Valley Authority (TVA) develops reservoir land management plans (Plans) to integrate land and water resources, provide for the optimum public benefit, and balance competing and sometimes, conflicting resource uses. By providing a clear statement of how TVA hopes to manage land and by identifying each parcel for specific purposes, TVA intends to balance conflicting land uses and facilitate decision-making for use of its TVA public land. Plans are approved by the TVA Board of

Directors (Board) and adopted as agency policy to provide for long-term land stewardship and accomplishment of TVA responsibilities under the TVA Act of 1933. Plans have been completed and implemented for seven mainstream and five tributary reservoirs.

1.2 Purpose

The purpose of the Norris Plan is to help TVA make decisions relating to the future use of its land within the watershed around Norris Reservoir. By providing a clear statement of how TVA will manage its land and by identifying land for specific uses, the Norris Plan helps improve TVA's responsiveness to the public concerning land use requests.

TVA's Vision is **Generating Prosperity in the Valley**. This vision will be accomplished by TVA setting the standard for:

- **Supplying low-cost reliable power** - Meet the changing needs of power distributors and directly served customers for energy products and services in changing markets.
- **Supporting a thriving river system** - Minimize flood damage, maintain navigation, support power production, improve water quality, protect public health and the environment, and support recreational uses.
- **Stimulating economic growth** - Provide services based on core expertise to solve regional problems, protect natural resources, create jobs, and build partnerships for public benefit.

The Norris Plan uses an integrated resource management approach that focuses on balancing flood control, navigation, power generation, water quality, recreation, and land use needs to obtain the optimum benefit for the whole system. Land planning supports TVA's corporate strategic goals to be environmentally responsible, customer driven, and growth oriented by providing a framework for deciding the best use of TVA public land toward continued implementation of the TVA mission.

The Norris Plan will guide TVA resource management and property administration decisions on 27,926.77 acres of land around Norris Reservoir that are under TVA stewardship responsibilities. It identifies the most suitable uses for 315 parcels of TVA public land, providing areas for TVA Project Operations (Zone 2), Sensitive Resource Management (Zone 3), Natural Resource Conservation (Zone 4), Developed Recreation (Zone 6), and Residential Access (Zone 7). The planned acreage is TVA-retained (fee-owned) land and accounts for 676.03 miles or 84 percent of the total 809.2 miles of reservoir shoreline. It also categorizes the Residential Access Zone (Zone 7) (consisting of 130.79 shoreline miles) and Non-TVA Shoreland (Zone 1) subject to Section 26a jurisdiction (consisting of 133.17 miles of shoreline) into three categories, in accordance with the Shoreline Management Initiative (SMI) Environmental Impact Statement (EIS) which was approved by the Board in April 1999. The proposed activities and management approach for the Norris Dam Reservation, which is allocated to Project Operations (Zone 2), are also described (Appendix B-1 - Norris Dam Reservation Tactical Plan [Tactical Plan]).

1.3 Process

Land planning is a systematic method of identifying and evaluating the most suitable use of TVA public land. It uses resource data, computer analyses, and input from citizens, other public agencies, organizations, and TVA staff to allocate land to seven clearly defined zones (see Table A-1.1 for zone definitions):

- Zone 1: Non-TVA Shoreland (e.g., flowage easement land subject to Section 26a jurisdiction)
- Zone 2: Project Operations
- Zone 3: Sensitive Resource Management
- Zone 4: Natural Resource Conservation
- Zone 5: Industrial/Commercial Development
- Zone 6: Developed Recreation
- Zone 7: Residential Access

TVA land management plans have a 10-year planning horizon. The Norris Plan was developed by a team of land managers and technical specialists, knowledgeable about the reservoir and its resources. A list of the planning team members is provided in Appendix B-2. The planning team made land use decisions by considering agency and public needs, environmental and watershed conditions, economic benefits, and state and federal policies. The process includes:

- Identification of existing landrights. All "committed land" (parcels with existing commitments through transfers, leases, licenses, contracts, and TVA projects) is automatically allocated to designated use. "Uncommitted land" is an area where there is no prior existing commitment through transfers, leases, licenses, contracts, and TVA projects.
- Compilation of existing resource data for all reservoir land.
- Field collection of new resource data for federal-mandated categories (i.e., sensitive resources, such as wetlands, threatened and endangered species, and archaeology/historical) on portions of "uncommitted" land, e.g., land with no prior commitments, as defined above.
- Identification of issues and concerns about TVA reservoir land from the public and other local, state, and federal entities.
- Analysis of land capability and suitability by TVA resource managers based on subsequent rating/ranking of parcels for specific land uses.
- Initial allocation of uncommitted parcels by the Land Planning Team based on public input and land needs justification (capability rating/ranking analysis).
- Development of an EA document and Norris Plan based on proposed allocation.
- Categorization of the residential shoreline.

- Internal and external review of draft EA and Norris Plan.
- Make environmental document and Norris Plan revisions based on internal and external reviews.
- Approval of final environmental document and Norris Plan by the Board.

Reservoir land planning uses TVA's Geographic Information System's (GIS) automated landrights database to identify ownership patterns for TVA public land to be planned. All new data collected during the planning process is stored in the GIS system. Norris Plan map and other reports are generated by GIS.

2. NORRIS RESERVOIR REGIONAL OVERVIEW

Norris Reservoir, with its 809.2 miles of shoreline, extends into five Tennessee counties: Anderson, Campbell, Claiborne, Grainger, and Union. The reservoir is located within the portion of the Tennessee River Valley known as the Clinch River basin. The Clinch River drains an area of 2912 square miles and is 300 miles long; its major tributary, the Powell River, drains 938 square miles and is about 180 miles long. This area falls entirely within the southern Appalachian Region which includes the Blue Ridge Mountains section and the Eastern Ridge and Valley section. The southern Appalachia Region is characterized by rugged topography, abundant rainfall, and a multitude of native plant and animal species. The amount of public national forest and park land in southern Appalachia is greater than anywhere east of the Mississippi River. Almost three-fourths of the land is forested.

2.1 The Past

It is believed that humans occupied this land at least some 12,000 years ago. They lived in small groups and were believed to be highly mobile following herds of large game animals or moving from season to season to where there were plant and animal resources. The abundant natural resources of the region provided a diverse source of food which included deer, nuts, fruits, a variety of small animals, fish, and shellfish. Between 8000 B.C. and about 500 B.C., there are signs of increased population, settlement, and trade among regions. By 500 A.D., settled village life had developed as evidenced by cultivated plants, houses, pottery, and burial mounds. By 1500 A.D., there is evidence of a complex, developed social structure with town centers, domiciliary mounds, some fortified villages, an elite class, as well as smaller and scattered farmsteads.

Southern Appalachia was occupied by the Cherokee nation. Cherokee territory extended throughout southern Appalachia and included parts of Virginia, North Carolina, Kentucky, Tennessee, Georgia, and South Carolina. The Cherokee lived in this area until they were forcibly removed to Oklahoma in 1838, a journey known as the “Trail of Tears.” From January 1934 until the following June, an archaeological survey was conducted of the Norris basin. The findings of this survey included evidence of 23 prehistoric sites, 20 dwellings, and 34 other structures in the Norris basin area. Recent surveys of the Norris basin conducted in 1997 and 1998 identified more evidence of past human lifeways.

One of the oldest historic sites in the region is the Cumberland Gap, located in Claiborne County just south of the convergence of Tennessee, Kentucky, and Virginia. This natural pass had long been known as the “Gateway to the West,” since it afforded access across the forbidding Allegheny Ridge which had barred the passage of colonists to the Northwest Territory. Native Americans made heavy use of the pass, and the trails they followed became known as the “Warriors’ Path,” the “Wilderness Trail,” and the “Wilderness Road.” In 1750 Dr. Thomas Walker claimed discovery of Cumberland Gap, and in 1775 Daniel Boone led 30 men through the gap and opened a road west for white settlement.

While the Cumberland Gap opened up a land route for settlement, hunters and trappers had long been venturing by water into the Clinch-Powell River Valley. It is believed Elisha Walden traveled this valley as early as 1761, and there exists a diary entry from 1773 that documents a party crossing the Clinch River and camping overnight at Cove Creek.

This region was settled principally by Anglo-Saxon pioneers from Virginia and North Carolina soon after the establishment of the Wilderness Road as a pioneer route. As the colonists headed westward, some settled in the Clinch-Powell River Valley and farmed the fertile land along these rivers. Thomas Frost has the distinction of being the first permanent white settler to the Norris basin. In 1796, the same year that Tennessee became a state, he built his cabin in what would become Anderson County. Other pioneers were to follow, and soon, settlements were seen throughout the Clinch-Powell River Valley—Sycamore Creek, Barren Creek, Well's Station, and Hamilton's Cross Roads, to name a few. In fact, settlement led to the creation of counties: Grainger County, 1796; Claiborne and Anderson Counties, 1801; Campbell County, 1806; and Union County, 1856.

Rutledge, the county seat of Grainger County, was founded in 1798. Shortly thereafter in 1801, the town of Tazewell was laid out as the county seat of Claiborne County. A post office, courthouse, and jail were built in 1804. Soon Tazewell was a community with businesses, churches, even a school. Also in 1801, Clinton, situated on the Clinch River, was laid out as the county seat of Anderson County. Jacksboro was founded in 1807 and served as the hub of Campbell County and its government activities. Liberty, later named Maynardville, became the county seat of Union County.

The early 1800s saw the extension of commerce, growing settlements, and the development of transportation. Farming was the primary economic activity of most in the region, but a number of businesses supplemented subsistence farming. The manufacturing census of 1820 listed the following small businesses in Anderson County: 12 hat shops, 3 tanyards, 16 blacksmiths, 5 saddlers, 5 wheelwrights, 10 coopers and barrel makers, 3 cabinet makers, 38 sugar manufacturers, and 44 distilleries. When steamboats began plying the upper section of the river, Clinton became the head of steamboating on the Clinch River. Quantities of lumber, the principal export from the Clinch Valley, were floated down from Virginia on rafts and flatboats.

Railroad service in Tennessee began in 1851, but it was not until 1856 that rails began to be laid in Anderson County. The Knoxville and Kentucky Railroad Company (K&K) began a line northward from Knoxville which would extend to the Kentucky boundary. Tracks were laid from Knoxville to the south bank of the Clinch River at the outbreak of the Civil War. All work on the road stopped when the war began.

During the Civil War, Claiborne County and the Cumberland Gap figured prominently in the war strategy of both the Union and Confederate Armies, changing hands four times. While most of the area was not affected by major battles, bloody skirmishes did take place, and mixed loyalties among residents and alienation among families took a heavy toll.

The close of the Civil War found the Nation faced with new social, economic, and political problems. For one thing, the returning southern soldier faced the necessity of a reorientation of his political and economic policies, since the systems with which he had been familiar were uprooted and destroyed by the war. He had to regear his agricultural economy, which had furnished his principal means of livelihood, to a system of free labor. Other pursuits that he had gradually developed before the war as complements to agriculture and some of the war industries had to be reestablished under a changed economic and social order. Transportation facilities, too, had largely broken down and had to be rebuilt, expanded, and enlarged.

Soon after peace was restored, the mining of coal became a prominent practice because of the rich deposits of this mineral found in the surrounding mountains. By 1870, commerce and industry were on the upswing in the region. The development of the vast coal land in this area and the building of railroads went hand-in-hand, each dependent on the other. The coal operators had to have means of transportation for their product; the prospect of large coal shipments by rail assured the railroad promoters there would be sufficient revenue from that source alone to justify building a line through the coal region. The mining companies included the Knoxville Iron Company, the Black Diamond Coal Company, and the Coal Creek Mining and Manufacturing Company. Besides coal mining, an important source of income to many in the region was Clinch River pearls. In fact, Clinton was the center of the pearling industry for this area. The Knoxville and Ohio Railroad took over the K & K line and began building branch lines to transport other natural resources out of the Valley.

While agriculture remained the primary livelihood of most in this area, the new century brought new industries into the area. For example, in November 1905, a new industry was started in Anderson County—the Magnet Knitting Mills—manufacturers of men's knit socks. Magnet became one of the largest hosiery mills in the South, and provided much needed jobs to the region. But while new industries provided some with opportunities, old, familiar businesses saw disaster. On the morning of May 19, 1902, just after coal miners entered the Fraterville Mine in Coal Creek Valley, an explosion occurred killing 184 men and boys. A violent strike, lasting 2 years, ensued. An explosion at Cross Mountain Mine No. 1 in Briceville occurred in 1911, killing 84 men.

The 1920s began as a prosperous decade. Farm prices remained at a reasonable level after World War I, and with the introduction of the automobile and improved roads, more markets could be reached. Land prices in east Tennessee were at an all-time high. Advantages such as free mail delivery, telephone service, and electricity were brought to parts of the region. However, this prosperity was short-lived as banks began to fail and the stock market crashed. The decade closed with the beginning of The Great Depression.

The Depression gloom was lightened immensely in the Clinch-Powell River Valley by the creation of the TVA in 1933. TVA, created to provide flood control, navigation, and cheap electricity, provided thousands of jobs for many in the region. TVA launched its first major construction project with the building of Norris Dam. As part of this project, TVA also built the planned community of Norris, and with the help of the Civilian Conservation Corps

(CCC), the public parks at Norris and Big Ridge. While TVA added much to the economy of the area, it did cause pain as land and communities were flooded for the Norris Reservoir.

World War II brought further changes to this Valley. The Clinton Engineering Works in Oak Ridge provided jobs to those fighting the war on the homefront. Post-war industries include furniture manufacturing plants, such as England Manufacturing Company, and Oakwood Furniture Manufacturing, a medical supply manufacturer, DeRoyal Industries, mobile home manufacturers, such as Norris Homes, and textile factories, such as Claiborne Textile, Incorporated. Agriculture is still a part of the economy with tobacco and Grainger County tomatoes, while tourism has become a major industry for the region with Norris Reservoir and state parks attracting numerous visitors.

The post-War economy of the Clinch-Powell watershed area rapidly changed from one predominantly rural in character to one more equally divided between agriculture and industry. This provided larger incomes for families of the area, as well as made additional demands for trained personnel for business, industry, and agriculture. The wartime baby boom created need for more schools in the 1950s and 1960s. In the late 1970s, completion of interstate highways through the area linking the east coast with points west not only improved accessibility for travelers, business persons, and local residents, but stimulated more development. Homes "out in the county," neighborhood shopping centers, fast food outlets, shopping plazas, office parks, and scattered residential subdivisions became more accessible and demanded even better roads.

Norris Reservoir provided a new source of recreation for the area. The management of water levels by TVA provides a reliable and predictable water level for seasonal recreation. Norris Reservoir is conveniently accessible to area residents and provides an attractive vacation destination for out-of-state visitors.

Through its stories of settlement and development, of becoming a state and enduring the Civil War, of transitioning from a rural, agrarian society to a more urban, industrialized area, the history of the Clinch-Powell River Valley reflects the history of our Nation as a whole. It will be interesting to see the continuing history of the Valley and the Nation unfold in the twenty-first century.

2.2 The Project

The Norris Project was authorized by the TVA Act of 1933 (May 18) by the 73rd Congress of the United States of America. Actual work began on October 1, 1933. The overriding purpose of the dam was for flood control, water releases for navigation, and power generation. Norris Reservoir collects rainfall from a 3850-square-mile watershed.

The Norris Project involved more than construction of the dam. It involved the acquisition of land in Anderson, Campbell, Claiborne, Grainger, and Union Counties. To make way for the reservoir, other project activities included surveying, mapping, and clearing the reservoir area; constructing bridges; relocating buildings, roads, cemeteries, power and telephone lines; and relocating families.

2.3 The Present Shoreland

Today, there are approximately 27,927 acres of Norris Reservoir shoreland on which TVA can plan future uses. This land includes about 809 miles of shoreline. Of the 809 miles of total shoreline, 16 percent is privately owned flowage easement land (referred to as Non-TVA Shoreland [Zone 1]), 42 percent is owned and managed by TVA (this is land that has been allocated to Project Operations [Zone 2], Sensitive Resource Management [Zone 3], Natural Resource Conservation [Zone 4], and Developed Recreation [Zone 6]), 26 percent is owned by TVA and jointly managed (this is shoreland fronting areas like Chuck Swan Wildlife Management Area and Norris Dam State Park. The shoreland was allocated in accordance with the adjacent use), and 16 percent is TVA-owned residential access shoreland (Residential Access [Zone 7]).

2.4 The Future

Recent trends within the southern Appalachia Region provide us with a glimpse of the kind of pressures that will bear on Norris Reservoir in the future. Long-term shifts in the regional economy and social trends, along with broad shifts in recreational behavior, and current and anticipated environmental issues combine to frame a picture of the challenges ahead and what it will take to protect places like Norris Reservoir.

The population of the five counties in the Norris Reservoir area, according to the 2000 Census of Population, is 179,513 which is a 12 percent increase over the 1990 population of 160,255 (Tables 3-11 and 3-12). This growth rate is slower than that of the state, which grew 16.7 percent, as well as the Nation, at 13.1 percent. Union County, located just to the north of Knoxville and part of the Knoxville metropolitan area, had the fastest growth rate at 30.0 percent, followed by Grainger County to the east of the Knoxville metropolitan area, at 20.8 percent. Projections suggest that the area is likely to grow more slowly than the state and the Nation over the next 20 years, although Union County is expected to continue to grow faster. With increases in population, there has been expansion of urban and suburban areas into what were formerly rural and natural areas and an increase in the demand for recreational activities. Population for this area is projected to grow to about 191,111 by the year 2010.

Trends affecting the Norris Reservoir area mirror those of the larger region of which it is a part. The current population of the southern Appalachian Region is better-educated, older, and has a higher net income than 20 years ago. More people throughout the region are moving out of urban areas and commuting to work. There is increased demand for real estate that includes attributes associated with a leisurely, rural lifestyle, but affords access to the benefits of a metropolitan area. Thus, development pressures on lakefront properties a short distance from urban centers can be very high.

The most significant trend in recreation is an increase in both numbers of participants and the diversity of activities. The percentage of the population that participates in recreational activities, such as fishing, camping, and hiking, has grown or remained stable. Future population changes are expected to result in major growth in less physically demanding activities, such as pleasure driving, sightseeing, nature and cultural resource study, and

developed camping. Increased pressure on nature-based recreation settings and facilities is also expected in the future. Urban, suburban, and transitional settings where development is emerging are expected to increase at the expense of existing rural or natural-appearing settings. Public land will have to supply a larger portion of nature-based outdoor recreation opportunities as settings and opportunities on private land decline. Without better cooperation between public and private sectors, key natural and cultural settings on public land may be negatively affected by increasing density of development.

Environmental quality issues will become increasingly important as population and demands on the environment increase. The southern Appalachia Region has more species of native plants, animals, and insects than any other region with a similar climate in North America. The high mountains and abundant streams and rivers create a variety of habitat types that support thousands of species, many of which occur only in this region. Land that borders the streams, rivers, and water bodies in the valleys is a significant contributor to this regional diversity. Riparian zones—strips of land bordering water bodies—are characterized by many different native species often occurring as dense populations. Poor land use practices near the water and reductions in wetland areas can threaten both this diversity of species and water quality. In southern Appalachia, generally, land conversion, fragmentation of large areas of forest into smaller patches, invasions of nonnative pest species, air and water pollution, and other human-caused stresses are having an impact on these native resources.

Nonnative insect, disease, and plant and animal species, such as the gypsy moth, dogwood anthracnose, zebra mussel, and hydrilla, are impacting the region. Some of the most pressing air quality issues relate to ground-level ozone, visibility, and acid rain. Land management or human activities adjacent to streams, rivers, and reservoirs can increase erosion into the aquatic system and lead to sedimentation, alter the natural shape of stream channels, change water chemistry, and impact aquatic organisms.

Two-thirds of reported water quality impairments within the southern Appalachian Region are from nonpoint sources, such as septic tanks, agricultural runoff, storm water discharges and landfill and mining leachate. Agricultural impacts due to runoff containing commercial fertilizer, animal manure, and pesticides are greatest where slopes are greater than 3 percent and where agricultural operations are immediately adjacent to water bodies. Highways, especially those close to or crossing waterways, impact water quality in a number of ways. Capital investments in municipal and industrial wastewater treatment processes since the adoption of the Clean Water Act in 1972 have resulted in significant improvements in the quality of point-source discharges into waterways and, in turn, have reduced water pollution. As growth continues, further improvements will be necessary. Increases in the amounts of water withdrawn from surface water bodies for use can have downstream impacts on the quality of water.

Norris Reservoir is a unique resource that can be enjoyed by many future generations. For it to be enjoyed in the future, it must be able to accommodate increased demands that are placed upon it, or some of those demands must be curtailed. How Norris Reservoir can best accommodate these increased demands will depend on the actions of government, business,

and civic leaders within the region, those who come to enjoy Norris Reservoir for whatever purpose, and those who own the land on or near its shoreline.

Norris Reservoir's future will be affected by trends and issues that extend far beyond its shoreline. Population growth within the upper east Tennessee region, land development and community planning practices, growing tourism and recreation economy, a growing diversity of recreational pursuits, as well as developments in upstream portions of the Clinch-Powell watershed all will affect the quality of experience Norris Reservoir provides. Close attention must be given to reserving shorelands with unique or special qualities, properly managing and conserving the natural resources of the shoreline, and protecting different uses so they can be enjoyed by the public.

3. PUBLIC SCOPING SUMMARY

From October 18 to November 30, 1999, TVA sought comments from citizens and recreational users of the Norris Reservoir watershed. The solicitation of public comments was sought through news releases to local newspapers announcing public participation opportunities. Individuals could also submit comments by electronic mail. Additionally, individuals were invited to complete a questionnaire indicating their preferences and opinions regarding the Norris Reservoir watershed (see Appendix A-2 Scoping Document). In addition to the public meetings, TVA met with elected officials in the Norris Reservoir watershed area, and held two interagency meetings to gather information from agency personnel who have management responsibility or interest in the Norris Reservoir area.

The majority (77 percent) of respondents indicated water-related activities (fishing, pleasure boating, marina, swimming, use of public boat ramps, water skiing). More than half (59 percent) of the respondents also indicated wildlife observation. Respondents were also asked to indicate their preferences regarding facilities for various recreation activities on or around Norris Reservoir. The majority of respondents registered that there were about the right amount of marinas, boat fishing, pleasure boating, water skiing, swimming in nondesignated areas, boat ramps, and bank fishing areas and/or facilities. The majority of these respondents also felt that there should be less facilities and/or areas devoted to jet skiing and off-road vehicles.

The majority (over 50 percent) of respondents expressed that more land was needed for sensitive resource areas (e.g., wetlands, cultural, endangered species), state wildlife management areas, and resource management areas (e.g., forests). The majority (over 50 percent) of respondents indicated that about the right amount of land was allocated for state parks and commercial recreation areas (e.g., commercially operated marinas, resorts, campgrounds). In addition, many (40 percent) respondents indicated that the right amount of land was allocated for resource management and wildlife management areas and that more land was needed for state park areas.

Respondents were asked to prioritize (by allocating $100 to any or all of) the following issues: improve recreational access and facilities, erosion control, improve wildlife, work with private landowners to clean up/prevent impact to water quality, provide industrial/economic development opportunities, trash/litter cleanup, monitor water quality conditions, address houseboat waste issues, help farmers minimize agricultural impact to water quality, and work with private landowners to improve forestry practices. Analysis of respondents' prioritization indicates houseboat waste issues, trash/litter cleanup, and monitor water quality conditions as the top three issues.

Many respondents (47 percent) expressed that no new marinas were needed but that some existing marinas should *expand their facilities*. Several respondents (27 percent) stated that *no new marinas* or expansions were needed, while three percent of respondents stated that *one additional marina* was needed; an additional 12 percent expressed that *more than one marina* was needed.

The majority of respondents (59 percent) indicated that the quality of water is good, while 37 percent indicated that it was fair; the remaining 4 percent indicated poor water quality. Respondents were asked to explain their rating of the water quality in Norris Reservoir. Respondents predominantly based their rating on: comparison with other lakes, appearance of the water, observed litter and/or houseboat waste, degree of improvement needed, and the apparent health of fish in the lake. Additional explanations of the water quality included: use of TVA's water quality reports, degree of industrial/agricultural waste, amount of development and population (i.e., recreational users and residents), water level, and/or their recreational use of Norris Reservoir (e.g., swimming).

Respondents reported that they would help in litter cleanup activities (44 percent) and/or planting food plots for wildlife (39 percent). In addition, between 24 and 33 percent reported they would participate in a watershed coalition, erosion control/prevention, and/or committing to proper disposal of houseboat waste. Approximately 9 percent of respondents indicated an interest in starting a watershed coalition.

Respondents were asked, "What do you value most about the land and waters around Norris Lake?" For this question, approximately 60 percent of respondents' comments collectively referred to water quality, natural scenery, and the lack of development. The remaining comments expressed value in the recreational opportunities, abundant wildlife and habitat, cleanliness of the area, the peace and solitude of the area, and the fact that it is a public resource accessible to everyone.

Respondents were also asked, "Over the next 10 years, what will be the major problems or issues that must be addressed regarding the Norris Lake watershed?" Water quality and over development were the predominant themes/issues regarding this question. Nearly 30 percent of comments collectively expressed concern about erosion, loss of natural resources and wildlife, litter, and boat waste. Approximately 20 percent of comments referred to crowding and overuse of the area as well as boating and jet ski use. Remaining comments expressed concern regarding fluctuating water levels.

Lastly, respondents were asked, "What projects/activities are needed to provide cleaner water in Norris Lake and the streams that flow into it?" Approximately half of all responses mentioned activities associated with enforcement of waste pollution, waste pollution from industry, agriculture, and boating, and the need for sewage treatment and water monitoring. More than 20 percent of comments expressed the need for litter removal and education programs for pollution and litter prevention. Many respondents also commented on limiting/restricting development, restricting jet ski use, and maintaining water levels.

4. PLANNING GOALS AND OBJECTIVES

As previously stated, TVA's Vision is **Generating Prosperity in the Valley**. This vision will be accomplished by TVA setting the standard for:

- **Supplying low-cost reliable power** - Meet the changing needs of power distributors and directly served customers for energy products and services in changing markets. As part of the internal scoping for the Norris Plan, an assessment was conducted to determine if land would be needed for future power project operations (i.e., generation facilities, switchyards, transmission facilities, and rights-of-ways). No needs were identified.

- **Supporting a thriving river system** - Minimize flood damage, maintain navigation, support power production, improve water quality, protect public health and the environment, and support recreational uses. The Norris Plan aligns with this standard by assessing that there would be no significant impacts on floodplains or navigation (Sections 3.12.1 and 3.10.2 of the accompanying EA). The Preferred Alternative (Alternative B) would provide better opportunity to protect water quality by identifying Sensitive Resource Management (Zone 3) or Natural Resource Conservation (Zone 4) as the designated use on the majority of land, now having more general designations. Improved water quality supports protecting health and the environment. Recreational uses are supported through the planning process by aligning findings from public scoping with allocating land to Sensitive Resource Management (Zone 3) and Natural Resource Conservation (Zone 4) that accommodate bank fishing, swimming in nondesignated areas, wildlife observation, picnicking, hiking, hunting, informal camping, and other dispersed recreation activities.

- **Stimulating economic growth** - Provide services based on core expertise to solve regional problems, protect natural resources, create jobs, and build partnerships for public benefit.

The Norris Plan recognizes that protecting, managing, and enhancing natural resources on TVA public land has a direct link to stimulating economic growth. As noted in Section 3.9.2 in the accompanying EA, activities associated with informal recreation can support the local economy through the sale of boats, gasoline, hunting and fishing supplies, etc. Additionally, public scoping participants indicated that the natural beauty and scenery of land and water around Norris Reservoir is what they value most. By protecting scenic amities, Norris Reservoir and surrounding TVA public land maintain the ability to attract visitors which support local economies.

The Norris Plan focuses on TVA's mission by setting several goals:

- **TVA Projects Goal** - To maintain TVA facilities for flood control, navigation, and power production and transmission.

- **Watershed Management Goal** - To help improve the condition of the watershed by monitoring conditions in streams and reservoirs and by partnering with local communities and others interested in watershed protection and improvement.
- **Resource Management Goal** - To manage TVA public land for the enhancement of natural resources for human appreciation and use and to protect sensitive resources.
- **Sustainable Development Goal** - To manage TVA public land to complement the region's economic development activities while not impairing the natural resources and quality of life aspects.
- **Recreational Development Goal** - To manage TVA public land for recreational activities.
- **Residential Access Goal** - To manage residential shoreland consistent with the Shoreline Management Policy (SMP).

Land planning objectives for Norris Reservoir were developed by the Clinch-Powell Watershed Team using customer and TVA staff input received during the scoping process. *Scoping* is the issue-gathering phase of the environmental review process. The following objectives were used to allocate TVA public land on Norris Reservoir. They reflect the public's interest in Norris Reservoir and TVA's desire to manage TVA public land on Norris Reservoir in the public's best interest. These objectives are consistent with TVA's mission and its land planning goals.

4.1 Norris Reservoir Planning Objectives

Considering customer input received during the scoping process and TVA needs, the Clinch-Powell Watershed Team allocated the TVA public land on Norris Reservoir using the following objectives:

4.1.1 TVA Projects Goal

- ***Provide for the protection of TVA projects, such as the dam reservation and navigation markers***. When considering land use around Norris Reservoir, an important component is providing adequate protection for the integrity of TVA facilities, such as the dam, transmission lines, and other TVA programmatic projects associated with the reservoir and power operations. The Norris Plan allocates approximatley 935 acres to TVA Project Operations. The bulk of this land, approximately 904 acres, is in the Norris Dam Reservation. The remaining acreage consists of existing power line rights-of-way and TVA administrative buildings. A Tactical Plan (Appendix B-1), that examines how to best utilize the Dam Reservation, is included as part of this planning process. There was a separate public scoping effort to determine visitor use patterns, habitat modifications, and facility needs. Consistent with the reservoir land planning scoping results, none of the comments received indicated a need for any intensive type of development that would alter the recreation use to a more structured format. However, some supporting facility needs were identified. Specifically in response to public comments, the Tactical Plan proposes to add additional parking spaces to the existing Clear Creek parking area and

develop a permanent restroom building between the Weir Dam parking lot and the Clear Creek parking area.

- ***Provide for navigation aids on Norris Reservoir***. Navigation aids provide for a safer reservoir experience. Seventy-seven percent of the survey respondents indicate that they use Norris Reservoir for water-based activities. Norris Reservoir has 25 navigation markers. Land use decisions will not negatively impact the role of navigation markers that are located on TVA public land. In addition, TVA maintains several underwater rock buoys to identify hazard areas on Norris Reservoir.

4.1.2 Watershed Management Goal

- ***Consider the impacts of the allocations on water quality on Norris Reservoir***. Water quality was the highest ranking concern during public scoping. Twenty-four percent of the respondents indicated that water quality will be a major problem that must be addressed over the next 10 years. Also, 23 percent of those surveyed indicated that good water quality is what they value most about Norris Reservoir. Water quality would benefit from the Norris Plan allocations. As previously stated, the Norris Plan allocates 60 parcels containing 4,839 acres along 87 shoreline miles to Sensitive Resource Management (Zone 3) and 122 parcels containing 18,937 acres along 336 shoreline miles to the Natural Resource Conservation Zone (Zone 4). These two zones combined comprise 85 percent of the 27,927 acres of Norris Reservoir TVA public land and 62 percent of the TVA-managed shoreline miles. Any of the proposed uses of Sensitive Resource Management (Zone 3) and Natural Resource Conservation (Zone 4) would allow for the protection of water quality either as a result of less development or by ensuring management practices to minimize negative impacts.

  In some cases the land is large blocks and in other cases only narrow strips between backlying uses, such as residential and agricultural. These strips would provide a buffer to the reservoir from agricultural and residential chemical use, mowing, and clearing of the backlying land. In addition, five commercial marinas currently are equipped with sewer pump-out facilities. Other marinas contract pump-out services with a private vendor. TVA is actively working with other agencies, concerned citizens and organizations in attempting to identify water quality problems within the watershed and form partnerships to provide effective solutions to correct potential problems.

  Twenty-six percent of public scoping respondents indicated that they would be interested in being involved in a watershed coalition, while 9 percent of the respondents connoted a willingness to start a watershed coalition. As a result, two watershed coalitions—Friends of Norris Lake, Anderson County and Campbell County Chapters, were formed. These coalitions are working to improve water quality throughout the Norris watershed by stabilizing stream banks, working with farmers to minimize agricultural impacts, clean up litter and dump sites, provide educational opportunities, etc. Public scoping results also showed that one-fourth (25 percent) of the respondents indicated that water pollution enforcement projects/activities are most needed to provide cleaner water in Norris Reservoir and the streams that flow into it. A major concern embedded in that deals with

controlling houseboat waste. In response to that increasing concern, TVA has begun a Clean Marina Campaign (CMC). The CMC was initiated to promote environmentally responsible practices at marinas. This program is designed to help marina owners protect clean water, the very resource that provides them with their livelihood. A critical element of the CMC involves working with several partners to effectively address the boat waste issue with a multifaceted strategy that includes:

- Increasing public awareness of proper marine sanitation practices.
- Providing information to marinas about grants available from the Tennessee Wildlife Resources Agency (TWRA) for installation of pump-out systems.
- Partnering with certain marinas to offer financial incentives to boaters promoting installation of holding tanks or execution of a contract to have holding tanks pumped at regular times throughout the recreation season.
- Investigating reports of illegal dumping of waste from boats.
- Evaluating how to most effectively increase enforcement activities.

4.1.3 Resource Management Goal

- ***Allocate additional land for resource management areas***. TVA places a high priority on stewardship practices that maximize resource benefits on its land. Fifty-four percent of the scoping survey respondents indicated that land should be allocated to resource management. The Norris Plan allocates 122 parcels, containing 18,937 acres, to Natural Resource Conservation (Zone 4), in an effort to meet this planning objective. Areas allocated to Natural Resource Conservation (Zone 4) will be further reviewed and a unit plan will be developed that specifically determines how best to maximize their potential natural resource benefits.

- ***Preserve undeveloped TVA public land to balance the high amount of development that has occurred and will continue to occur on non-TVA managed land around Norris Reservoir***. Sixteen percent of the scoping survey respondents indicated "lack of development" was what they valued most about Norris Lake. Moreover, "over development" was identified by 20 percent, second only to water quality, as a major problem or issue that must be addressed over the next 10 years. To align with the above sentiments, no TVA public land was allocated to Industrial/Commercial Development (Zone 5). Also, no additional land was allocated to Residential Access (Zone 7).

- ***Protect sensitive resources on TVA public land***. These resources include threatened and endangered species, cultural resources, wetlands, unique habitats, natural areas and distinctive visual resources. During the public scoping process, the respondents to the scoping questionnaire indicated that TVA should place a high priority on protection of these resources. Fifty-two percent of the respondents preferred allocations that focused on devoting more TVA public land to sensitive resource areas. The Norris Plan identifies 60 parcels containing 4,839 acres of land containing sensitive resource amenities. These parcels may be used for activities, such as informal recreation opportunities and natural resource conservation, but protection of the sensitive resource is the overall guide to the management of the parcel.

TVA has previously designated six small wild areas on Norris Reservoir. Norris Reservoir has more small wild areas than any other reservoir in the TVA system. Those areas range in acreage from 13 (Beech Island) to 125 (River Bluff). Small wild areas on Norris Reservoir total 592 acres. The Norris Plan proposes to expand one existing small wild area, Monks Corner, by 25 acres.

- ***Provide informal recreation opportunities on Norris Reservoir.*** According to the scoping survey respondents, informal recreation activities like fishing (77 percent of all respondents), pleasure boating (76 percent of all respondents), swimming in undesignated areas (63 percent of all respondents), and wildlife observation (59 percent of all respondents) are very important. The Norris Plan allocates 85 percent of the land to Sensitive Resource Management (Zone 3) or Natural Resource Conservation (Zone 4). The land is basically undeveloped, with the exception of signs and parking areas accommodating many informal uses, such as camping, hiking, nature observation, hunting, and fishing. The TVA public land comprises the majority of the TVA public land that is undeveloped and available for informal use by the public.

4.1.4 Sustainable Development Goal

- ***Consider the expansion of utilities (water, electric, telephone, cable, and others that may develop) on TVA public land***. Like roads, utilities are the lifeblood of economic development. While specific parcels for distribution lines for water, electric, telephone, and cable have not been designated, it is expected that proposals for use of TVA public land for utilities would be received. Typically, these requests involve using existing road or utility rights-of-way. The Norris Plan recognizes that these utilities are necessary. As new proposals for utility expansion or new utilities are developed, it may be necessary to utilize TVA public land. However, projects should be directed away from Sensitive Resource Management (Zone 3) parcels unless the proposal can be accomplished in such a way without affecting the sensitive resources being protected.

- ***Understand the linkages between managing TVA public land to complement the region's economic development activities while not impairing the natural resources and quality of life aspects.*** It is realized that leaving public land in a more natural state and allowing access to the land for more dispersed recreational opportunities, stimulates economic growth in the **surrounding** counties. It is believed that people are willing to travel from urban landscapes to areas that are largely undisturbed to pursue activities, such as informal camping, hiking, nature photography, mountain bike riding, etc. These users frequently require infrastructure services, such as gasoline, food, and other supplies that are provided for by private area businesses.

  Keeping TVA public land in a more undeveloped state and allowing it to serve as a magnet to attract visitors to this area align with the results from public scoping. The majority (over 50 percent) of scoping respondents expressed that more TVA public land was needed for sensitive resource areas (e.g., wetlands, cultural resources, endangered species) and resource management areas (e.g., forests, wildlife areas). The majority (over 50 percent) also indicated that about the right amount of TVA public land was allocated

for state parks and commercial recreation areas (e.g., commercially operated marinas, resorts, campgrounds). When asked what respondents valued most about the land and water around Norris Reservoir, 24 percent indicated it was the natural beauty/scenery.

4.1.5 Recreational Development Goal

- ***Provide for developed reservoir access areas.*** Reservoir access provides use and enjoyment of the reservoir for the general public. TVA has partnered, in the past, with TWRA, Tennessee state parks, and local municipalities to provide reservoir access sites. TVA also maintains access sites to Norris Reservoir. Over 75 percent of the scoping survey respondents indicated that that they used Norris Reservoir for some type of water-based activity, such as boating, fishing, or boat launching. Sixty-six percent of the respondents indicated that the amount of land for commercial and recreational development on Norris Reservoir was about the right amount. Many respondents (47 percent) also expressed that no new marinas were needed but that some existing marinas should expand their facilities. Several respondents (27 percent) stated that no new marinas or expansions were needed.

  The Norris Plan allocates 1744 acres to Developed Recreation (Zone 6). The majority of these acres (86 percent) have been previously allocated over the past 60 years for developed recreation purposes. Several parcels are managed by TVA with developed boat ramps for reservoir access. TVA also manages Loyston Point Campground and the Cove Creek Boat Ramp (known as Site B). Norris Reservoir supports 23 marinas. These marinas utilize both TVA public land and adjoining private land. The Norris Plan allocates 247 acres to be used for day use developed recreation purposes.

4.1.6 Residential Access Goal

- ***In an effort to manage TVA public land consistent with the decision in the SMI, the Norris Plan does not allocate any new land to Residential Access (Zone 7).*** In 1998 TVA completed an EIS on residential shoreline development impacts throughout the Tennessee Valley. Under the chosen alternative (the Blended Alternative), sensitive natural and cultural resource values of reservoir shorelines are to be conserved and retained by preparing a shoreline categorization of the residential shoreline for individual reservoirs. Voluntary donations of conservation easements over flowage easement or other shoreland to protect scenic landscapes would be encouraged. A "maintain and gain" public shoreline policy has been adopted to ensure no net loss, and preferably net gain, of public shoreline when considering requests for additional access rights. Under this policy, TVA would allow docks and other alterations along shoreline where access rights exist and where sensitive resources, navigation, flood control, and power generation concerns do not exist. TVA would also limit consideration of requests for access rights across shorelines where such rights do not exist to (a) projects proposed by others for exchange of access rights that result in no net loss, or preferably a net gain, of undeveloped public shoreline, and (b) TVA projects that support the agency's integrated resource management mission. Other than these situations, no additional residential access rights would be considered.

TVA, as part of the Norris Plan, would categorize all the residential shoreline (Non-TVA Shoreland [Zone 1] and Residential Access ([Zone 7], which total 264 miles of shoreline). This categorization would be based on resource data collected from field surveys of the residential shoreline. The shoreline categorization is composed of three categories: Managed Residential Shoreline; Residential Shoreline Mitigation; and Shoreline Protection. A resource inventory has been conducted for sensitive species and their potential habitats, archaeological resources, and wetlands along Norris Reservoir's residential shoreline. The residential shoreline on Norris Reservoir comprises 33 percent of the total 809 miles of shoreline. Of that 264 miles of potential residential access shoreline, 133.17 miles are flowage easement.

A total of 65 percent of the residential shoreline has potential habitat for sensitive species; approximately 5 percent of the residential shoreline has archaeological resource concerns; and 24 percent of the residential shoreline has wetland vegetation. When these three components are mapped, the result is that 5.04 miles (1.91 percent) of residential shoreline would be in the Shoreline Protection category; 232.65 miles (88.14 percent) would be in the Residential Shoreline Mitigation category, and 26.27 miles (9.95 percent) of the residential shoreline would be in the Managed Residential Shoreline category. The Shoreline Protection category denotes shoreland segments possessing populations of federal- and state-listed species that are especially vulnerable to impacts associated with shoreline development. Within the Residential Shoreline Mitigation category, site-specific impacts of each resource would be assessed and mitigated in accordance with the applicable regulations governing that resource. Shoreline categorized in the Managed Residential Shoreline category would not have any known sensitive resources.

4.2 Other Objectives

- ***Honor existing land use commitments on TVA public land where the existing uses are meeting intended objectives***. A basic premise of the land planning process is to honor existing commitments on TVA public land. Each of these commitments has been reviewed in light of continuing to provide public benefit and/or uphold sound management practices which meet TVA's expected level of performance. TVA is always prepared to evaluate unacceptable conditions and render necessary solutions when TVA public land is involved.

  A large portion of Developed Recreation (Zone 6) parcels was already committed for recreation facilities. All Project Operations (Zone 2) and Residential Access (Zone 7) were committed parcels. Fifty-seven parcels, containing 1,743.90 acres (86 percent), are considered committed to Developed Recreation (Zone 6).

  The fourteen parcels, containing 934.50 acres, were allocated to Project Operations (Zone 2) because of existing land uses. Likewise, the 69 parcels, containing 1,472.55 acres, are allocated to Residential Access (Zone 7) because of prior commitments. The majority of these parcels have had the adjacent property sold with outstanding rights of ingress and

egress in the late 1950s. These current commitments of TVA public land are honored in the Norris Plan and have met the planning objective**.**

5. ALLOCATION PROCESS

During the allocation process, the location, existing conditions, and qualities of each parcel were discussed. As explained in the Introduction to the Norris Plan, the allocation team honored all existing commitments—that is, existing leases, licenses, easements, and uses by TVA programs. Allocation to Residential Access (Zone 7) was based on SMP commitments. The remaining parcels were allocated based on reservoir planning objectives and TVA programs' requested land uses, which were developed with public input. Proposed allocations were made by consensus.

During the allocation meeting, the planning team allocated the TVA public land by parcels to six of the seven zones defined in Table A-1.1. No additional land was allocated to Non-TVA Shoreland (Zone 1). Appendix A-3 is the Parcel Information Matrix which identifies each parcel number, allocation zone, number of acres, reason for allocation, prior forecast designation, map panel locator.

TABLE A-1.1 PLANNED LAND USE ZONE DEFINITIONS

Zone		Definition
1	**Non-TVA Shoreland** *(Flowage/ Retained Rights)*	Shoreland located above summer pool elevation that TVA does not own in fee or land never purchased by TVA. TVA is not allocating private or other non-TVA public land. This category is provided to assist in comprehensive evaluation of potential environmental impacts of TVA's allocation decision. Non-TVA shoreland includes: • ***Flowage easement land***—Privately or publicly owned land where TVA has purchased the right to flood and/or limit structures. Flowage easement land is generally purchased to a contour elevation. Since this land is subject to TVA's Section 26a permitting requirements, the SMP guidelines discussed in the definition of Residential Access (Zone 7) apply to the construction of water use facilities fronting flowage easement residential development. SMP guidelines addressing land based structures and vegetation management do not apply. • ***Privately owned reservoir land***—This is land never purchased by TVA and may include, but is not limited to, residential, industrial, commercial, or agricultural land. This land is subject to TVA's Section 26a approvals for structures.
2	**Project Operations**	All TVA public land currently used for TVA operations and public works projects includes: • ***Land adjacent to established navigation operations***—Locks, lock operations and maintenance facilities, and the navigation work boat dock and bases. • ***Land used for TVA power projects operations***—Generation facilities, switchyards, and transmission facilities and rights-of-way.

TABLE A-1.1 PLANNED LAND USE ZONE DEFINITIONS		
Zone		**Definition**
		• ***Dam reservation land—***Areas used for developed and dispersed recreation, maintenance facilities, watershed team offices, research areas, and visitor centers. • ***Navigation safety harbors/landings—***Areas used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions. • ***Navigation day-boards and beacons—***Areas with structures placed on the shoreline to facilitate navigation. • ***Public works projects***—Includes fire halls, public water intakes, public treatment plants, etc. (These projects are placed in this category as a matter of convenience and may not relate specifically to TVA projects.) • ***Land planned for any of the above uses in the future.***
3	**Sensitive Resource Management**	Land managed for protection and enhancement of sensitive resources. Sensitive resources, as defined by TVA, include resources protected by state or federal laws or executive orders and other land features/natural resources TVA considers important to the area viewscape or natural environment. Recreational activities, such as hunting, wildlife observation, and camping on undeveloped sites, may occur in this zone, but the overriding focuses are protecting and enhancing the sensitive resource the site supports. Areas included are: • TVA-designated sites with potentially ***significant archaeological resources***. • TVA public land with ***sites/structures listed on or eligible for listing on the National Register of Historic Places***. • ***Wetlands***—Aquatic bed, emergent, forested, and scrub-shrub wetlands as defined by TVA. • ***TVA public land under easement, lease, or license to other agencies/individuals*** *for resource protection purposes*. • ***TVA public land fronting land owned by other agencies/individuals*** for resource protection purposes. • ***Habitat protection areas***—These TVA natural areas are areas managed to protect populations of species identified as threatened or endangered by the USFWS, state-listed species, and any unusual or exemplary biological communities/geological features. • ***Ecological study areas***—These TVA natural areas are designated as suitable for ecological research and environmental education by a recognized authority or agency. They typically contain plant or animal populations of scientific interest or are of interest to an educational institution that would utilize the area.

TABLE A-1.1 PLANNED LAND USE ZONE DEFINITIONS		
Zone		**Definition**
		• ***Small wild areas***—These TVA natural areas are areas managed by TVA or in cooperation with other public agencies or private conservation organizations to protect exceptional natural, scenic, or aesthetic qualities that can also support dispersed, low-impact types of outdoor recreation. • ***River corridor with sensitive resources—***A river corridor is a linear green space along both stream banks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. These areas will be included in Sensitive Resource Management (Zone 3) when identified sensitive resources are present. • ***Significant scenic areas***—These are areas designated for visual protection because of their unique vistas or particularly scenic qualities. • ***Champion tree site—*** Areas designated by TVA as sites that contain the largest known individual tree of its species in that state. The state forestry agency "Champion Tree Program" designates the tree, while TVA designates the area of the sites for those located on TVA public land. • ***Other sensitive ecological areas***—Examples of these areas include heron rookeries, uncommon plant and animal communities, and unique cave or karst formations. • ***Land planned for any of the above uses in the future.***
4	**Natural Resource Conservation**	Land managed for the enhancement of natural resources for human use and appreciation. Management of resources is the primary focus of this zone. Appropriate activities in this zone include hunting, timber management to promote forest health, wildlife observation, and camping on undeveloped sites. Areas included are: • ***TVA public land under easement, lease, or license*** to other agencies for wildlife or forest management purposes. • ***TVA public land fronting land owned by other agencies*** for wildlife or forest management purposes. • ***TVA public land*** managed for wildlife or forest management projects. • ***Informal recreation areas*** maintained for passive, dispersed recreation activities, such as hunting, hiking, birdwatching, photography, primitive camping, bank fishing, and picnicking. • ***Shoreline Conservation Areas***—Narrow riparian strips of vegetation between the water's edge and TVA's backlying property that are managed for wildlife, water quality, or visual qualities. • ***Wildlife Observation Areas***—Areas with unique concentrations of easily observable wildlife that are managed as designated public wildlife observation areas.

TABLE A-1.1 PLANNED LAND USE ZONE DEFINITIONS		
Zone		**Definition**
		• ***River corridor without sensitive resources present***—A river corridor is a linear green space along both stream banks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. River corridors will be included in Natural Resource Conservation (Zone 4) unless sensitive resources are present (see Sensitive Resource Management, Zone 3).
5	**Industrial/ Commercial* Development**	Land managed for economic development, including business, commercial, light manufacturing, and general industrial uses. Areas included are: • ***TVA public land under easement, lease, or license to other agencies/individuals***. • ***TVA public land fronting land owned by other agencies/individuals***. • ***Sites planned for future use supporting sustainable development.*** Types of development that can occur on this land are: • Business parks—TVA waterfront land which would support business and light manufacturing activities. • Industrial access—Access to the waterfront by backlying property owners across TVA property for water intakes, wastewater discharge, or conveyance of commodities (i.e., pipelines, rail, or road). Barge terminals are associated with industrial access corridors. • Barge terminal sites—Public or private facilities used for the transfer, loading, and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants. • Fleeting areas—Sites used by the towing industry to switch barges between tows or barge terminals which have both offshore and onshore facilities. • Minor commercial landing—A temporary or intermittent activity that takes place without permanent improvements to the property. These sites can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks.
6	**Developed Recreation**	All reservoir land managed for concentrated, active recreation activities that require capital improvement and maintenance, including: • ***TVA public land under easement, lease, or license to other agencies/individuals*** for recreational purposes. • ***TVA public land fronting land owned by other agencies/individuals*** for recreational purposes. • ***TVA public land developed for recreational purposes,*** such as campgrounds and day use areas. • ***Land planned for any of the above uses in the future.*** Types of development that can occur on this land are: • ***Commercial recreation***, e.g., commercial marinas, resorts, campgrounds, and golf courses.

TABLE A-1.1 PLANNED LAND USE ZONE DEFINITIONS		
Zone		**Definition**
		• ***Public recreation***, e.g., local, state, and federal parks and recreation areas. • ***Greenways,*** e.g., linear parks located along natural features, such as lakes or ridges or along man-made features, including abandoned railways or utility rights-of-way which link people and resources together. • ***Water access sites***, e.g., boat ramps, courtesy piers, canoe access, fishing piers, vehicle parking areas, picnic areas, trails, toilet facilities, and information kiosks.
7	**Residential Access**	TVA-owned land where Section 26a applications and other land use approvals for residential shoreline alterations are considered. Requests for residential shoreline alterations are considered on parcels identified in this zone where such use was previously considered and where the proposed use would not conflict with the interests of the general public. Under the Norris Plan, residential access would be divided into three categories based on the presence and potential impacts to sensitive ecological resources, such as threatened or endangered species, wetlands, and archaeological and historic sites. The categories are (1) Shoreline Protection where no residential alterations would be permitted; (2) Residential Shoreline Mitigation, where special analysis would be needed; and (3) Managed Residential Shoreline, where no known sensitive resources exist. Types of development/management that can be considered on this land are: • ***Residential water use facilities***, e.g., docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and potable/nonpotablewater intakes. • ***Residential access corridors***, e.g., pathways, wooden steps, walkways, or mulched paths which can include portable picnic tables and utility lines. • ***Shoreline stabilization***, e.g., bioengineering, riprap, and gabions, and retaining walls. • ***Shoreline vegetation management*** on TVA-owned residential access shoreland. • ***Conservation easements*** for protection of the shoreline. • ***Other activities***, e.g., fill, excavation, grading.

***Commercial recreation uses**, such as marinas and campgrounds, are included in Zone 6.*

6. GLOSSARY OF TERMS

Dam Reservation	Land generally maintained in a park-like setting by TVA to protect the integrity of the dam structure, hydroelectric facilities, and navigation lock. The reservation also provides for public visitor access to the TVA dam facilities and recreation opportunities, such as public boat access, bank fishing, camping, and picnicking.
Emergent Wetland	Wetlands dominated by erect, rooted herbaceous plants, such as cattails and bulrush.
Endangered Species	Any species in danger of extinction throughout all or a significant portion of its range or territory.
Floodplains	Any land area susceptible to inundation by water from any source by a flood of selected frequency. For purposes of the National Flood Insurance Program, the floodplain, as a minimum, is that area subject to a 1 percent or greater chance of flooding (100-year flood) in any given year.
Forecast System	The process used for planning the use of TVA public land. TVA staff would provide a record of actual and prospective uses indicated for particular properties. A Forecast System record book was prepared for each TVA reservoir to serve as a general guide for use or development to benefit TVA staff interests and the local or regional economy. Decisions on the best use of the property were made, using internal agency expertise. The new land use planning process will eventually replace the Forecast System as the mechanism for identifying acceptable uses of TVA public land. A major difference between the two methods is the involvement of the public in the planning process.
Fragmentation	The process of breaking up a large area of relatively uniform habitat into one or more smaller, disconnected areas.
Mainstream Reservoirs	Impoundments created by dams constructed across the Tennessee River.
Riparian Zone	An area of land that has vegetation or physical characteristics reflective of permanent water influence. Typically, a streamside zone or shoreline edge.
Riprap	Stones placed along the shoreline for bank stabilization and other purposes.
Section 26a Review Process	Section 26a of the TVA Act requires review and approval of plans for obstructions, such as docks, fills, bridges, outfalls, water intakes, and riprap before they are constructed across, in, or along the Tennessee River and its tributaries. Applications for this approval are coordinated appropriately within TVA and USACE. The appropriate state water pollution control agency must also certify that the effluent from outfalls meets the applicable water quality standards.
Scrub-shrub	Woody vegetation less than about 20 feet tall. Species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.
Shoreline	The line where the water of a TVA reservoir meets the shore when the water level is at the normal summer pool elevation.

Shoreline Management Zone	A barrier of permanent vegetation established or left undisturbed around a reservoir in order to buffer the adverse impacts resulting from development and increased human activity.
Summer Pool Elevation	The normal upper level to which the reservoirs may be filled. Where storage space is available above this level, additional filling may be made as needed for flood control.
Wetlands (**as defined in *TVA Environmental Review Procedures)***	"Wetlands are those areas inundated by surface or ground water with a frequency sufficient to support and under normal circumstances do or would support a prevalence of vegetation or aquatic life that requires saturated or seasonably saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas, such as sloughs, potholes, wet meadows, mud flats, and natural ponds."

ACRONYMS AND ABBREVIATIONS

Board	TVA Board of Directors
BMPs	Best Management Practices
CMC	Clean Marina Campaign
EA	Environmental Assessment
EIS	Environmental Impact Statement
GIS	Geographic Information System
Norris Plan	Norris Reservoir Land Management Plan
SMI	Shoreline Management Initiative
SMP	Shoreline Management Policy
Tactical Plan	Norris Dam Reservation Tactical Plan
TVA	Tennessee Valley Authority
TWRA	Tennessee Wildlife Resources Agency